

The radio... **YAESU**

Product Catalog

# HF&V/UHF ALL MODE TRANSCEIVERS





# Inherent Passion and Inspiration

Creating the Future of HF communications

FT DX 101

## True Performance

Hybrid SDRs (Narrow Band SDR & Direct Sampling SDR)

- 2kHz RMDR 123dB+
- 2kHz BDR 150dB+
- 2kHz 3rd IMDR 110dB+

400MHz HRDDS (High Resolution Direct Digital Synthesizer)

2kHz Phase Noise -150dBc/Hz

VC-TUNE (Variable Capacitor Tune) signal peaking  
3DSS (3-Dimensional Spectrum Stream) visual display



# The Conclusive Choice

Offering True RF Performance & Exciting New Features



HF/50 MHz Transceiver

FTDX 101MP 200 W

- External Power Supply with 100mm (3.94") Front Facing Speaker; FPS-101 included
- VC-Tune unit x 2 (MAIN and SUB bands) included
- 300 Hz Crystal Roofing Filter (MAIN band) included
- 600 Hz Crystal Roofing Filter (MAIN and SUB bands) included
- 3 kHz Crystal Roofing Filter (MAIN and SUB bands) included



HF/50 MHz Transceiver

FTDX 101D 100 W

- VC-Tune unit (MAIN band) included \*For VC-Tune SUB band unit installation, please contact YAESU
- 600Hz Crystal Roofing Filter (MAIN and SUB bands) included
- 3kHz Crystal Roofing Filter (MAIN and SUB bands) included

### Supplied Accessories

- FTDX101MP:
- External Power Supply with Speaker: FPS-101
  - Hand Microphone SSM-75G
- FTDX101D:
- DC Power cable
  - Hand Microphone SSM-75G

### Optional Accessories

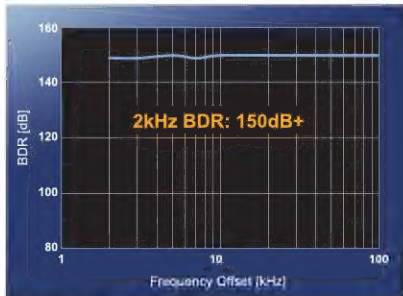
- SP-101 External Speaker
  - Maximum input: 7 Watts
  - Impedance: 8 ohms
  - Speaker diameter: 100 mm
  - Size (WxHxD): 6.30" x 5.12" x 12.68" (160 x 130 x 322 mm)
  - Weight (approx.): 4.41 lbs (2 kg)
- M-1 Reference Microphone
  - Revolutionary dual microphone configuration
  - Nine-band graphic equalizer
  - Treble Boost Cwling produces a unique tonal texture to the transmitted audio

## Narrow Band SDR

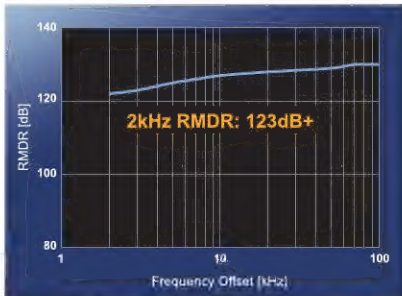
Crystal Roofing Filters Enable Phenomenal Multi-signal receiving characteristics

The Down Conversion type receiver configuration is similar to the FTDX5000. With a low noise figure dual gate MOS FET, D-quad DBM (Double Balanced Mixer) with excellent intermodulation characteristics. Narrow band SDR configuration with the first IF at 9MHz makes it possible to have excellent narrow bandwidth

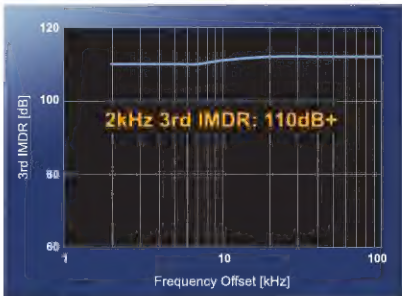
crystal roofing filters that have the desired sharp cliff edge shape factor. These high quality roofing filters enable the amazing multi-signal receiving performance demanded when faced with the most challenging on-the-air interference situations.



■ 14MHz Band Blocking Dynamic Range (BDR)



■ 14MHz Band Reciprocal Mixing Dynamic Range (RMDR)



■ 3rd IM Dynamic Range (IMDR)

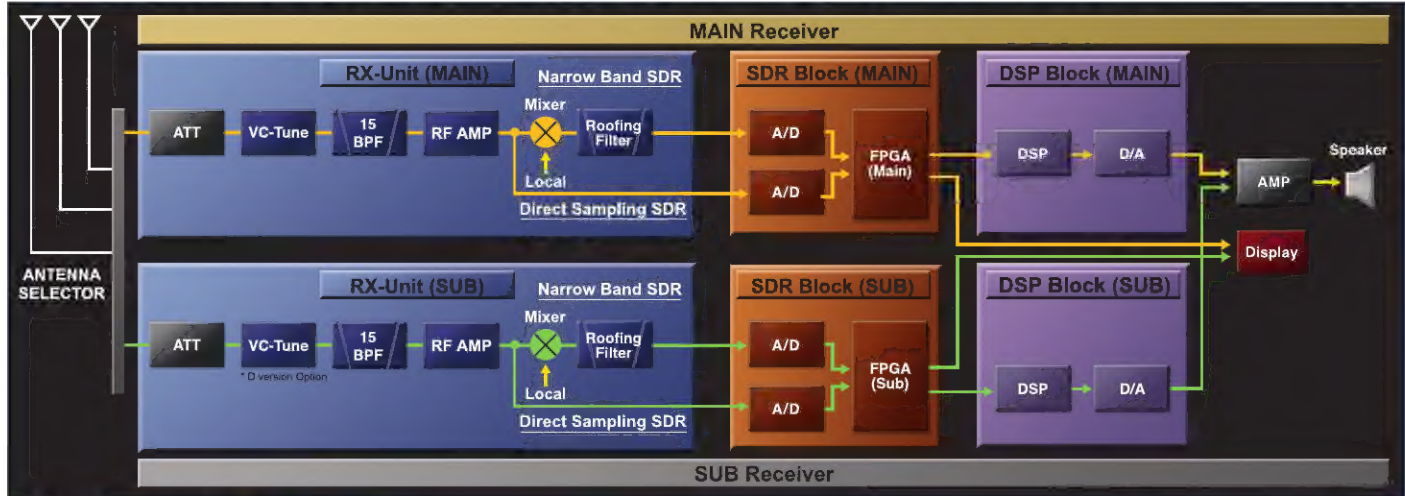


Dual Hybrid SDR Receivers (Narrow band SDR & Direct Sampling SDR)

◎ Emphasizes Excellent Receiver Performance and Hybrid SDR Functionality Digital Processing Generated Real-Time Spectrum Scope

The FT DX 101 series uses a hybrid SDR configuration that integrates a direct sampling SDR receiver in order to view the entire band status in real time, with the excellent dynamic receiver performance achieved by the narrow band SDR receiver circuit. The Direct Sampling SDR driving the real time Spectrum display with its large dynamic range enables the weakest signal to be observed on the display when it appears and the Narrow Band SDR enables that signal to be selected,

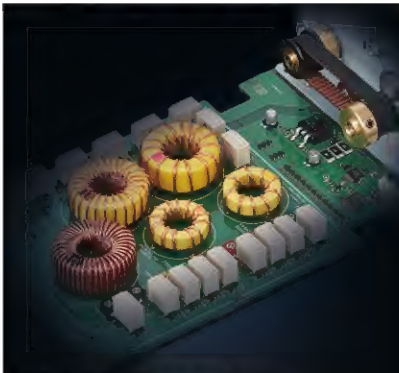
filtered and then decoded. If there is powerful AM station near your location or in challenging operating situations where there are a lot of strong signals in the band from Contests, DX-pedition activities, those signals outside the passband are attenuated by the very effective roofing filter at the front stage of the A/D converter. Therefore, interference is reduced making it is possible to continue to operate even under such difficult conditions.



■ Completely Independent Dual Hybrid SDR



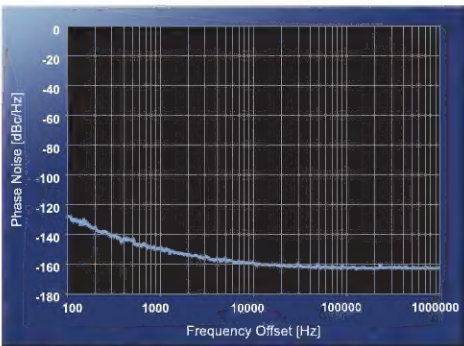
■ 400MHz HRDDS Unit



■ VC-Tune RF Preselector

Ultra Low-Noise Local Oscillator System; 400MHz HRDDS (High Resolution Direct Digital Synthesizer)

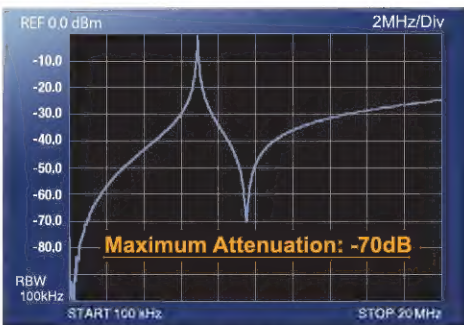
The local circuit of the FT DX 101 uses the 400 MHz HRDDS method. This circuit configuration generates a local signal by directly dividing from a high frequency of 400 MHz, the theoretical PLL lockup time becomes zero, and C/N deterioration by the lockup time does not occur. The significantly improvement of the C/N characteristic by directly dividing the frequency down contributes dramatically to reducing the noise in the entire receiver stage, and so improves the BDR (Blocking Dynamic Range) close-in performance. In the FTDX 101 series, the 400 MHz HRDDS latest design characteristics and the careful selection of the components used in the design results in the phase noise characteristic of the local signal that achieves an excellent value of -150dBc/Hz at 2kHz separation.



■ 1st Local OSC Phase Noise (14.2 MHz)

Automatic RF Preselector VC-Tune with a high precision stepping motor

In the FT DX 101 series, a next-generation RF preselector VC-Tune design further improves the high performance RF  $\mu$  Tuning system, by using a remarkable miniaturization design while producing an unparalleled attenuation characteristic of maximum attenuation -70 dB. A high precision stepping motor drives a variable capacitor (VC) to continuously cover the band as it follows the tuning by the operator. Fine-tuning for optimum improvement point is also available by using the MPVD (Multi-Purpose VFO Outer Dial) placed outside the main VFO dial knob.



■ VC-Tune (7MHz, Span 20MHz)



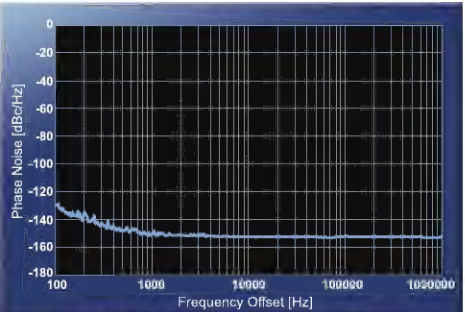
■ Transmit Final Stage

Signal Purity

■ High-Quality Transmission with Outstanding Phase noise Characteristics

The excellent C/N characteristics provided by the 400MHz HRDDS (High Resolution Direct Digital Synthesizer) used in the local oscillator circuit also contributes significantly to the transmitter section performance. In the FTDX101, a thorough examination of each element up to the final TX stage was made. The clock-distributor that divides and distributes the local signal from the 400MHz HRDDS circuit to each block, as well as the FPGA, D/A converter, the final power amplifier etc., and carefully selecting the latest circuit configurations to improve the C/N characteristics of the entire transmitter block. The transmit signal is directly generated from a 16-bit D/A converter without passing through a mixer circuit, therefore distortion and noise are significantly suppressed. As a result,

high-quality local signal characteristics are maintained without degradation to the final stage, and the transmission phase noise characteristics achieve -150 dBc/Hz at 2kHz separation.



■ TX Phase Noise (14 MHz band, Mode: CW)

New Generation Scope Display 3DSS

■ Intuitively grasp changes in the Strength of the Signals

The 3DSS display is a remarkable completely new system that displays the constantly changing band conditions in three dimensions (3-D) with the frequency as the horizontal axis (X axis), the signal strength as the vertical axis (Y axis), and the time axis as the Z axis. The operator can intuitively view the constant changes in a signal's strength as the signal flows to the back of the screen giving you a sensation of traveling in Time space. The operator can effectively see the close-in QRM situation from the Narrow band SDR output while at the same

time easily observe activity across the whole band from the Direct sampling SDR output.



■ 3DSS Display

■ DUAL/Vertical Display

■ MULTI Display

Front Panel Design Emphasizes Solid Superior Response and Operability

■ ABI (Active Band Indicator)

ABI indicators are arranged as the band select keys in a horizontal row above the VFO dial. When the MAIN Band is selected, the LED indicates in white, and when the SUB Band is selected, the LED indicates in blue. When transmit is keyed, the LED turns red and you can instantly confirm which VFO is transmitting.



■ ABI (Active Band Indicator)

■ MPVD (Multi-Purpose VFO Outer Dial)

The MPVD is a large high-grade aluminum multifunctional ring around the outside of the VFO dial. The ring allows control of SUB VFO frequency dial, VC-TUNE, Clarifier and C/S (custom select function). The MPVD is a handy dial that allows you to adjust important functions in ever-changing HF communications without taking your hand off the VFO.



■ MPVD (Multi-Purpose VFO Outer Dial)

OPTIONS

● M-1 Reference Microphone	● M-100 Dual-Element Microphone	● M-90D Desktop Dynamic Microphone	● M-90MS Kit Dynamic Microphone Kit	● SCU-53 Cable for M-90MS Kit (8-pin modular to Round 8-pin)	● M-70 Desktop Microphone	● VCT-101 VC-Tune unit FTDX101D (for SUB Band) *VC-Tune unit option Please contact Yaesu about installation.
● SSM-75G Hand Microphone	● YH-77STA Lightweight Stereo Headphone	● SP-101 External Speaker	● FC-40 Automatic Antenna Tuner (for Long wire antenna)	● SCU-LAN10 Network Remote Control System LAN Unit	● FH-2 Remote Control Keypad	● CW Narrow Filter ● XF-128CN (MAIN) 9.005 MHz / CW 300 Hz ● XF-129CN (SUB) 8.900 MHz / CW 300 Hz ● SSB Narrow Filter ● XF-128SN (MAIN) 9.005 MHz / SSB 1.2 kHz ● XF-129SN (SUB) 8.900 MHz / SSB 1.2 kHz



# Birth of a New Standard in HF Transceivers

Inheriting the Performance of the World Leading  
FTDX101 HF Hybrid SDR radio

- Hybrid SDR Receiver (Narrow Band SDR & Direct Sampling SDR)
- 9 MHz Down Conversion Receiver Configuration
- IF Roofing Filters produce Excellent Shape Factor
- IF DSP enables Superb Interference Rejection
- 5-inch TFT Color Touch Panel with 3DSS Visual Display
- Superior Operating Performance supported by the MPVD



\* External Speaker SP-30: Optional



# A New Legend Begins...



HF/50 MHz Transceiver  
**FTDX 10** 100 W

- 500Hz Crystal Roofing Filter included
- 3kHz Crystal Roofing Filter included
- 12kHz Crystal Roofing Filter included

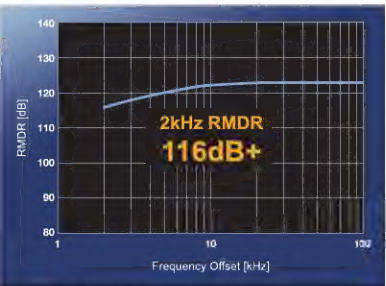
\* 300Hz Crystal Roofing Filter (Optional)

Supplied Accessories	
• Hand Microphone SSM-75E	• DC Power cable
Optional Accessories	
 <ul style="list-style-type: none"><li>■ SP-30 External Speaker</li><li>• Maximum input: 12 Watts</li><li>• Impedance: 4 ohms</li><li>• Speaker diameter: 77 mm</li><li>• Size (WxHxD): 4.5" x 3.6" x 10.4" (115 x 91 x 263 mm)</li><li>• Weight (approx.): 3.3 lbs (1.5 kg)</li></ul>	 <ul style="list-style-type: none"><li>■ M-70 Desktop Microphone</li><li>• Long stroke Smooth Operating PTT Key</li><li>• Built-in Low-cut Active Filter</li></ul>

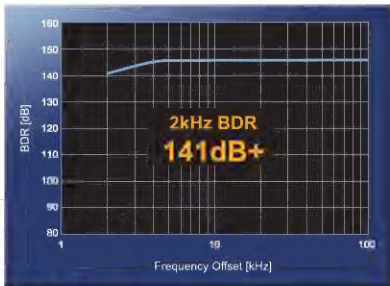
## Hybrid SDR with Ultimate Receiver Performance

The FTDX10 uses a Hybrid SDR receiver configuration with Narrow band SDR and a first IF at 9MHz. The narrow bandwidth crystal roofing filters have the desired sharp “cliff-edge” shape factor. The roofing filters enable the amazing multi-signal receiving performance demanded by operators faced with the most challenging on-the-air interference situations. The Direct Sampling SDR receiver, with its great dynamic range, drives the real time spectrum scope, enabling the weakest signals to be observed on the display.

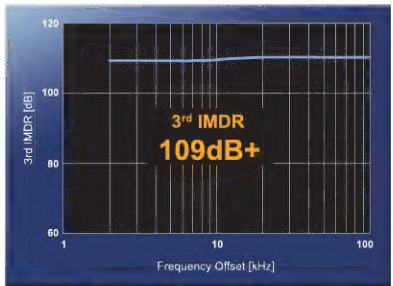
In combination with the down-conversion configuration, the FTDX10 has implemented an outstanding low-noise Local Oscillator and the latest circuit configuration where all circuit elements are carefully selected. As a result, the close-in RMDR (Reciprocal Mixing Dynamic range) in the 14 MHz band is 116 dB or better, BDR (Blocking Dynamic Range) is 141 dB or better, and the 3rd IMDR (third-order Intermodulation Dynamic Range) is 109 dB or better.



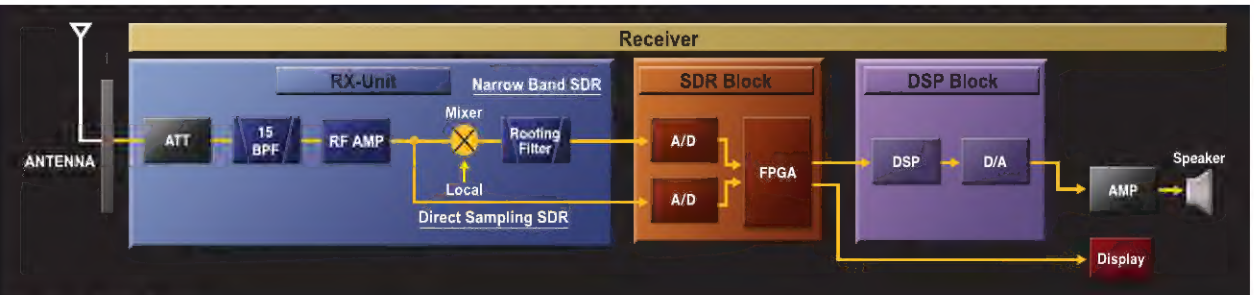
■ 14MHz Band Reciprocal Mixing Dynamic Range (RMDR)



■ 14MHz Band Blocking Dynamic Range (BDR)



■ 14MHz Band 3rd Intermodulation Dynamic Range (IMDR)

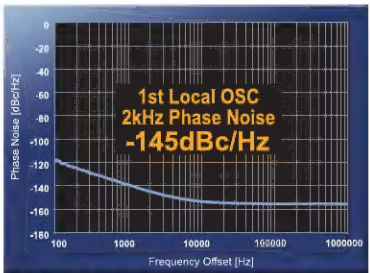


■ Receiver Block Diagram



Ultra-Low-Noise Local Signal Generated by the 250MHz HRDDS (High Resolution Direct Digital Synthesizer)

The C/N ratio (carrier-to-noise ratio) of the local oscillator signal injected into the 1st mixer, is an important factor in improving the close-in multi-signal receiver characteristics. The local signal of the FTDX10 is produced by directly dividing the high frequency of the 250MHz HRDDS (High Resolution Direct Digital Synthesizer). In this circuit configuration of the SDR module, the theoretical PLL lockup time becomes zero, and C/N deterioration caused by the lockup time does not occur. The significant improvement of the C/N characteristic by directly dividing the frequency, contributes dramatically to reduction of noise in the entire receiver stage. The FTDX10 latest circuit design with the 250MHz HRDDS and the careful selection of components, results in the phase noise characteristic of the local signal achieving an excellent value of -145dBc/Hz or better at 2kHz separation (14MHz band).



1st Local OSC Phase Noise (14.2MHz)

15 separate (HAM 10+GEN 5) Powerful Band Pass Filters

There are 15 band pass filters (BPF) between the attenuators and the RF amplifier stages. These are divided into 10 Band Pass Filters dedicated to the amateur bands and 5 Filters dedicated to the General coverage receiver (GEN). Band Pass filters are automatically selected according to the frequency band to eliminate out-of-band unwanted signals and send the desired signal to the RF amplifier.



15 Separate Band Pass Filters



32-bit High Speed Floating Decimal Point DSP

Effective QRM rejection afforded by IF DSP

The 32-bit high-speed floating decimal point DSP, TMS320C6746 (maximum 2949 MIPS/ 2220 MFLOPS) produced by Texas Instruments, is used for the IF section of the FTDX10. The signal processor operates at 368.64 MHz clock frequency. The Yaesu Renowned Interference Reduction Systems: SHIFT / WIDTH / NOTCH / CONTOUR / APF (Audio Peak Filter) / DNR (Digital Noise Reduction) / NB (Noise Blanker) controls are all accessed from the front panel.



IF DSP Operating Status Display

Excellent visibility & Touch Panel Operation with 3DSS visual display

5-inch TFT Color Touch Panel Display

The large wide full-color touch panel display, affords intuitive management of operating frequency, meters and main function settings.

Size : 5-inch Wide  
Resolution : 800 × 480 pixels

[Scope Specifications]  
Sweep speed: 30 FPS (Approx.)  
Display Range: 100dB  
Span width: 1 - 1000kHz

3DSS (3-Dimensional Spectrum Stream)

The 3DSS presents the constantly changing band conditions in three dimensions (3-D) with the frequency as the horizontal axis (X axis), the signal strength as the vertical axis (Y axis), and the time as the Z axis. The signal strength flows in time to the rear of the screen. The operator can intuitively view the constant changes in signal strength.



3DSS(3-Dimensional Spectrum Stream)

MULTI Display

In addition to the RF Spectrum Scope display, the MULTI Display mode allows both the oscilloscope and the AF-FFT audio scope to be shown on the screen simultaneously. Even in the contest fray, the receive band MULTI display view allows monitoring of the contact station's transmit signal audio characteristics with the AF-FFT function. At the same time the IF filter and interference reduction functions can be observed on the MULTI display for their influence on the receive signal, etc.



MULTI Display: 3DSS

MULTI Display: Waterfall

Versatile Touch Panel Operation

Frequency Direct Entry

In addition to frequency changes performed by the VFO dial, the FTDX10 supports ten key frequency input using a keypad that is displayed by touching the TFT Panel frequency display.

Instant Frequency Setting by Scope screen

The transceiver frequency can be instantly changed to match a signal shown on the scope screen display by touching the peak of the desired signal.

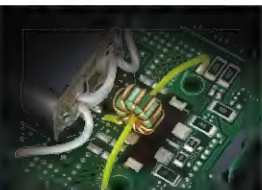


Frequency Direct Entry



Frequency Setting by Scope Screen

High-Purity Transmission Signal



TX Final Stage

Based on the high-quality local signal generated by the 250MHz HRDDS, the FTDX10 transmit signal is directly generated by a 16-bit D/A converter, therefore distortion and noise are significantly suppressed and C/N of the entire TX block is improved. As a result, the transmission phase noise characteristics achieve -145dBc/Hz at 2kHz separation.

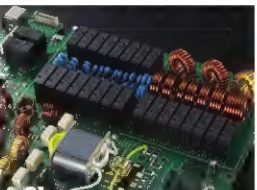
Important primary operating functions are arranged near the VFO dial

MPVD (Multi-Purpose VFO Outer Dial)



The large MPVD multi-purpose dial on the outside rim of the VFO dial can be used for comfortable frequency fast-tuning in combination with the VFO dial. The MPVD dial may also be assigned to adjust other functions that may be important in the ever-changing HF communications operations, without taking your hand off the VFO.

High Speed Automatic Antenna Tuner



Automatic Antenna Tuner

The FTDX10 internal antenna tuner uses microprocessor-controlled LC relay switching. Tuning data is automatically retained in a large capacity 100 channel memory. When changing frequency, the optimized antenna tuning data is immediately recalled to reduce tuning time, and realize the best matching point.

Extensive External input/output connections

External Display Connection

An external digital video output terminal (DVI-D) is furnished on the rear panel. Directly connect to an external display using a commercially available DVI-D digital cable without need of the LAN connection or LAN unit. It enables video operation and communication such as projecting the detailed band conditions or filter settings by a High-resolution large screen monitor.



Compatible Long wire Auto Antenna Tuner (FC-40)

A tuner terminal on the rear panel supports the FC-40 auto antenna tuner that can match a wire 20m or more in length to amateur bands 1.8MHz to 30MHz, 50MHz to 54MHz. Matched frequencies are stored in 200 matching memories making tune-up much quicker when returning to a previously used operating frequency.

Equipped with Three USB Ports

Two USB ports (A type) on the rear panel are available to use for operating the transceiver and inputting text with a connected mouse and keyboard. And a USB connection terminal (B type) that supports CAT operation, audio input/output and TX control.

Remote Operation with Network Remote Control System

Supports Spectrum scope and various functions

Enables comfortable operation even from a remote location

The LAN/Internet Network Remote Control System permits transceiver operation from a remote location (Requires optional LAN Unit). In remote operation the transceiver basic operations, the spectrum scope and the versatile displays enable sophisticated station control. Also, there are diverse exciting uses such as monitoring the band status on a large display at a location away from the "ham shack", by connecting to a home LAN network



Essential Features in Remote Operation

- Flexible Operating Panel Layout
- Basic Transmit/Receive operation
- Spectrum scope Function (3DSS, Waterfall Display)
- MULTI Screen Display (Band Scope / Oscilloscope / AF-FFT)
- Roofing Filters & Interference Reduction functions
- Memory Channel Function
- Shortcut Operations from the PC keyboard
- Others

OPTIONS									
● M-1 Reference Microphone	● M-100 Dual-Element Microphone	● M-90D Desktop Dynamic Microphone	● M-90MS Kit Dynamic Microphone Kit	● M-70 Desktop Microphone	● SSM-75E Hand Microphone	● YH-77STA Lightweight Stereo Headphone	● ATBK-100 Antenna Base Kit for ATAS-120A*1	● ATAS-120A Active Tuning Antenna*1 (Automatic Type)	● ATAS-25 Active Tuning Antenna (Manual Type)
● SP-30 High-Quality External Speaker	● FC-40 Automatic Antenna Tuner*1 (for Long wire Antenna)	● SCU-LAN10 Network Remote Control System LAN Unit	● FH-2 Remote Control Keypad	● XF-130CN CW Narrow Filter 9.005 MHz / CW 300 Hz	● CT-39A Packet Interface Cable	● MHG-1 Side Carry Handle			

\*1 FC-40 and ATAS-120A cannot be used simultaneously



High Reliability and Durability are Assured for Long-lasting  
Enjoyable Operations on the HF Bands

FT-891

HF/50MHz 100W All Mode Exciting Field Gear Transceiver  
In keeping with Yaesu's uncompromising receiver design,  
The 3kHz Roofing Filter is included as standard equipment



HF/50 MHz 100 W All Mode Mobile Transceiver  
**FT-891**  
Supplied Accessories: MH-31A8J Hand Microphone, Mobile Mounting Bracket, DC Cable

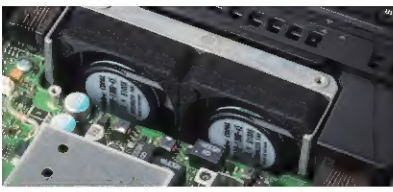
Rugged construction in an Ultra Compact body

ULTRA COMPACT Design

Measuring 6.1" x 2.0" x 8.6" (155 x 52 x 218 mm), the FT-891 is an innovative Multi-band, Multi-mode Mobile/Portable transceiver with Ultra Compact and rugged case design.

100 Watts Reliable High Power Output

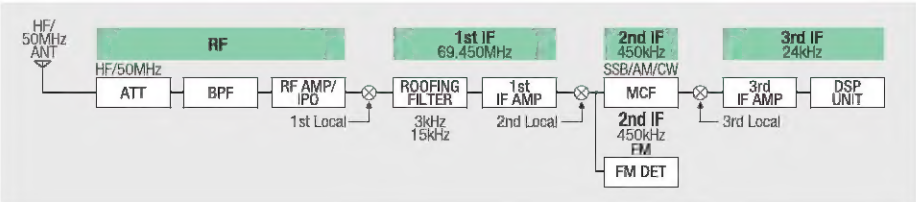
The FT-891 provides stable 100W high power output. High reliability is assured by the careful transmitter circuit design with efficient thermostatically-controlled Dual internal fans and the diecast chassis.



Thermostatically-controlled Dual Internal fans

Yaesu Uncompromising Receiver Circuit Design Ensures Excellent Performance

- Triple conversion with 1st IF frequency of 69.450 MHz (SSB/CW/AM)
- 3 kHz roofing filter equipped as standard
- TCXO provides ±0.5 ppm High frequency stability (-10°C to +50°C)

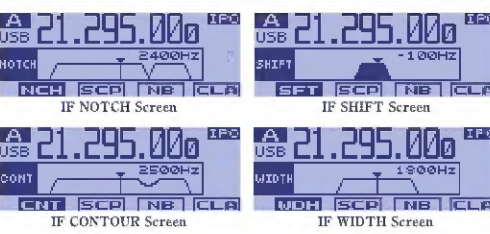


IF DSP Provides Effective and Optimized QRM Rejection



32-bit High Speed Floating Point DSP

The 32-bit high speed floating Point DSP (max 3000 MIPS) provides effective cancellation/reduction (DNR) of the random noise that is frequently frustrating in the HF frequencies. Also, the AUTO NOTCH (DNF) automatically eliminates the dominant beat tone. The CONTOUR and the APF are very effective receiver noise reduction tools in the HF bands operations. The YAESU original DSP QRM and noise reduction functions are provided.



Large Diameter Main Tuning Dial (1.6"/41mm) with Torque Adjustment



The Large Diameter Main Tuning Dial

The FT-891 operation is enhanced by the large diameter (1.6"/41mm) Main Tuning Dial, which is similar in size to the tuning knob of the larger-sized HF base station. The Torque of the Main Tuning Dial can be adjusted easily for your operating preferences.

Detachable Front Panel for Convenient Mounting and Operation



Convenient mobile operation by remotely mounting the Control Panel with the optional front panel separation kit (YSK-891)

QMB (Quick Memory Bank) Function

The QMB key accesses the five "Quick Memory Bank" registers, to organize and store groups of frequencies, and easily recall them.

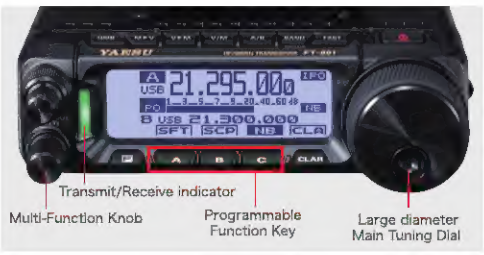
Automatic-Matching 100 Memory Antenna Tuner (Optional)



The FC-50 is an optional microprocessor-controlled antenna tuner that is designed specifically for use with the FT-891. The FC-50 can be easily attached to the FT-891.

Front Panel Design Achieves Optimal Operability

- Three Programmable Front Panel Function Keys may be set to the user's personal preferences
- Multi-Function knob allows quickly changing the operating band, and adjusting other settings.
- Large Transmit/Receive indicator LEDs clearly inform the operator about the current state of the transceiver



Useful and Convenient Functions

- Large dot matrix LCD display with Quick Spectrum Scope
- USB port allows connection to a PC with a single cable (CAT control, PTT/RTTY control)
- TUN/LIN connector allows connection of optional FC-50 or linear amplifier
- Advanced electronic keying (4 to 60 WPM) with FULL BK-IN support
- Supports Active-Tuning Antenna system (ATAS-120A, ATAS-25 :Option)

OPTIONS

 ●M-1 Reference Microphone	 ●M-100 Dual-Element Microphone	 ●M-90D Desktop Dynamic Microphone	 ●M-90MS Kit Dynamic Microphone Kit	 ●M-70 Desktop Microphone	 ●MH-31 A8J Hand Microphone	 ●MH-36 E8J DTMF Hand Microphone	
 ●YH-77STA Lightweight Stereo Headphone	 ●FC-40 Automatic Antenna Tuner*1 (for Long wire antenna)	 ●FC-50 Automatic Antenna Tuner*1	 ●FH-2 Remote Control Keypad	 ●YSK-891 Front Panel Separation Kit	 ●CT-39A Packet Interface Cable	 ●ATBK-100 Antenna Base Kit*1 (for Base operation on 6 m Band)	 ●ATAS-25 Active Tuning Antenna (Manual Type)

\*1 FC-40 / FC-50 and ATAS-120A cannot be used simultaneously





A Superb All-Around Amateur Radio Transceiver with a built-in real-time spectrum scope and superior basic operating performance covering the HF/50/144/430 MHz bands

# FT-991A

HF/50/144/430 MHz 100 W All Mode Transceiver

## FT-991A

(144 MHz 50 W/430 MHz 50 W)

Supplied Accessories: MH-31A8J Hand Microphone, T902525 DC Cable

※Microphone M-1 / External Speaker SP-10 : Optional Accessories

Optional Accessories

■ SP-10  
External Speaker

• Audio Output: 3 watts

• Impedance: 8 ohms

• Size (WHD): 4.33"x3.15"x9.96" (110x80x253mm)

### Supports Real-Time Spectrum Scope with Multi-Color Waterfall Display

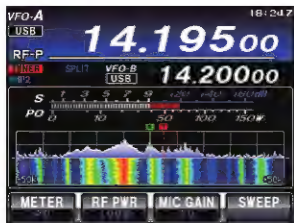
◎ Instantly evaluate band conditions with the built-in real-time spectrum scope

Listen to the received audio while tuning with the built-in high resolution real-time spectrum scope. Instantly evaluate ever-changing band conditions and easily find the desired signals. TX and RX markers are displayed on the scope for immediate grasp of the relationship between the TX and RX frequencies. The display color of the scope screen can be selected as preferred.



◎ Supports multi-color waterfall display

The waterfall display function presents the strength of the RX signals using color variations flowing with time. This allows for visual recognition of even the faint signals which rarely appear as peaks, offering a more detailed view of the band. The color of the waterfall screen can be selected from seven colors, or the multicolor array.



◎ Latest Touch Panel Operation, combined with traditional Front panel layout, achieves optimal operating convenience

- Full color TFT LCD display provides useful information about function status and settings at a glance
- Highly responsive panel, with functional design and intuitive layout, makes touch operation a pleasure
- Four user-customizable function keys offer quick access to mode-dependent assignments
- Traditional layout of the Main Dial knob and related controls makes experienced users feel right at home



### Uncompromising Receiver Circuit Design Ensures Excellent Basic Performance from HF to VHF/UHF

◎ Sophisticated receiver front end performance on a par with FTDX Series Transceivers

- Triple conversion with a 1st IF frequency of 69.450MHz for all bands
- 1st IF stage implements a narrow bandwidth 3 kHz roofing filter as standard equipment
- The 1st IF mixer for HF/50 MHz features a quad mixer that assures extremely low noise, excellent intermodulation characteristics, and high dynamic range.
- A dedicated VHF/UHF mixer, is separate from the HF bands, and permits design optimization for targeted frequencies.



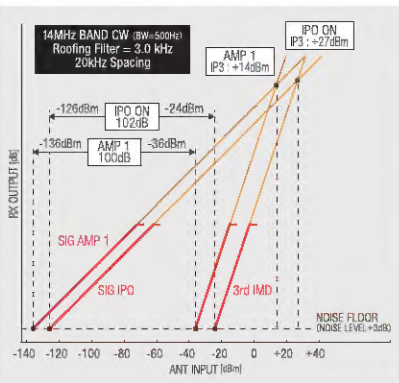
■ 3 kHz and 15 kHz Roofing Filters



■ HF/50MHz Quad Mixer ■ VHF/UHF Mixer

◎ RF amplifier design is optimized for each band

- Selectable IPO/AMP1/AMP2 settings for HF and 50MHz, optimize the receiver RF amplification
- Separate RF amplifiers provide the best characteristics for each band and signal conditions



■ IDR (IMD Dynamic range) / IP3 (3rd-Order Intercept Point) characteristics

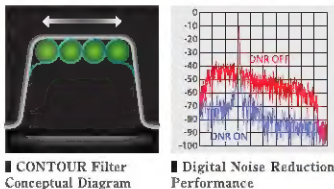


■ 32-bit High-Speed Floating Point DSP

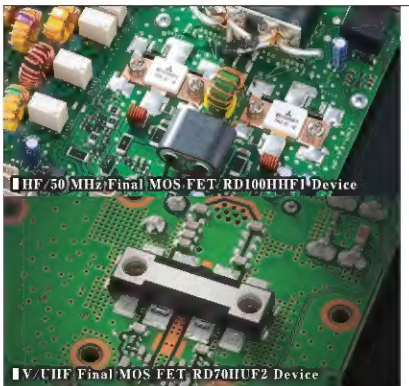
### IF DSP from YAESU is Famous for Superb Interference Rejection

- Same high-speed floating point DSP as used in FTDX Series
- The high speed floating point DSP chip TMS320C6746 (3000 MIPS /2250 MFLOPS) makes possible excellent interference rejection with actual signals under real-world conditions.
- Highly effective interference rejection
- The IF WIDTH and IF SHIFT functions form the basis to effectively remove interfering signals. The DNF (AUTO NOTCH) filter rapidly tracks and removes even multiple heterodyne signals.

The CONTOUR function can emphasize the desired audio components for the most distinguishable communications sound. The selectable bandwidth NOTCH is combined with the other noise reducing functions to provide convenient DX and Contest QSO operation.



■ CONTOUR Filter Conceptual Diagram ■ Digital Noise Reduction Performance



■ HF 50 MHz Final MOS FET RD100HHF1 Device

■ V/UHF Final MOS FET RD70HUF2 Device

Final Stages Provide Ample Power Reserves: 100 W for HF/50 MHz Band and 50 W for VHF/UHF Band

- High quality push-pull amplifier with 100 watts for HF and 50 MHz
- Using a push-pull arrangement of RD100HHF1 MOS-FET devices that are renowned for excellent performance in the HF and 50 MHz frequencies.
- High speed 1.8 to 54 MHz antenna tuner included as standard equipment
- 50 W amplifier for VHF/UHF assures plenty of power for high frequency bands
- The final amplifier for the VHF and UHF bands uses the high-output MOS-FET RD70HUF2 device, providing ample output power of 50 watts.

### Support for Advanced C4FM Digital Functions

- V/D mode for simultaneous transmission of voice and data with powerful error correction is optimal for mobile use, and for Voice FR (Full Rate) mode high quality audio transmission
  - AMS function instantly recognizes digital mode or FM mode, and enables automatic communication with stations using either mode.
  - GM (Group Monitor) function allows handy on-screen display of group members that are within communication range
  - 126 types of DSQ (Digital Squelch) enable specific selection of communicating stations
  - Supports high-definition Amateur Radio WIRES-X internet connection, utilizing C4FM digital technology
- \*Does not support operation of WIRES-X digital mode stations.  
\*Does not support sending and receiving of images via C4FM digital.

OPTIONS


\*1 USA and Asian versions only \*2 FC-40 and ATAS-120A cannot be used simultaneously.



HF/50/144/430MHz 6W All Mode Portable Transceiver

FT-818ND

Supplied Accessories: SBR-32 Ni-MH Battery Pack (9.6 V, 1900mAh), SAD-24 Battery Charger, MH-31A8J Hand Microphone, FBA-28 Battery Case (holds 8 "AA" Alkaline cells [not included]), YHA-63 Whip Antenna for (50/144/430 MHz), DC Cable, Shoulder Strap

Best Performance for Outdoor Amateur Radio Operation

Ultimate Compact Transceiver with 6 Watts TX Power Output

Measures 5.31" (W) x 1.5" (H) x 6.5" (D) (135 x 38 x 165mm) and Light weight (under 2 pounds / 900g), the FT-818ND is an innovative, Multi-mode, wide-band, portable transceiver, within an ultra-compact body, providing up to 6W of stable and reliable output power. TX power level can be selected from four levels, 6W/5W/2.5W/1W. Outdoor operation can be enjoyed with the same convenience as a handheld transceiver. \*6W(SSB/CW/FM), 2W(AM); 13.8VDC input \*C4FM Digital mode is not supported

High Stability TCXO Built-In

Built-in TCXO provides ±0.5ppm high frequency stability (-10℃ to +60℃) and maintains stable high-quality communication for SSB operation in the VHF/UHF band, and CW operation within a narrow band.

Ready to Operate from Various Sources of Power

Simple and convenient outdoor operation in any environment, the FT-818ND is ready to operate from multiple power sources:

- Supplied 1900mAh high-capacity Ni-MH battery pack (and battery charger)
- Supplied Alkaline Battery case, (8 alkaline "AA" cells not included).
- External 13.8VDC power source (External DC cable supplied)

Full featured CW Operation from a Portable

- CW "Semi Break-in": Receiver recovery Time (10ms to 2500ms in 10ms step)
- CW Reverse: Provides BFO injection LSB, instead of the default USB side.
- CW Pitch Control: CW side tone pitch adjustment (300Hz to 1000Hz in 50Hz steps)
- Built-in Electronic Keyer with speed adjustment (4WPM to 60WPM / 20CPM to 300CPM)

High Performance Collins® Mechanical Filter for SSB (Optional)

To enhance performance on receiver, Collins® Mechanical Filter option is available.

Multi-Function Keys for Easy Feature Access

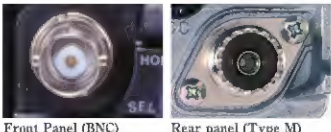
The "SELECT" knob, together with the "[A] [B] [C]" keys, provides ease of operation and quick efficient access to the many high-performance features.



Select Knob Multi-Function Keys

Two Antenna Connectors for Ease of Installation and Operation

The FT-818ND has two antenna terminals, a BNC and an M type. The desired antenna connection for each band may be selected in Menu Mode.



Front Panel (BNC) Rear panel (Type M)

Multi-Functional Display for Easy Operation

A wealth of information is available on the Multi-color display.



Spectrum Scope Monitor Double Size Frequency Display

Valuable Features

- 208 Memory Channels
- Versatile Scan Features
- Equipped with dedicated Data Connector
- CAT System control interface

DESKTOP MICROPHONE



〈Supplied Accessories〉  
AC adapter /  
Microphone cable /  
Treble Boost Cowling

REFERENCE MICROPHONE

M-1

- Dual microphone configuration features both dynamic and condenser elements
- Nine-band graphic equalizer for each microphone element
- TBC (Treble Boost Cowling) produces a unique tonal texture
- Long stroke Smooth operating PTT key
- Solid aluminum die cast mic stand
- High visibility ON AIR LED
- One-touch PTT keylock
- Large Display with anti-reflective AR coating
- Built-in record and playback feature
- Headphone output
- Built-in one-click Low-Cut filter
- Cannon-type(XLR) output



〈Supplied Accessories〉  
Microphone cable /  
Treble Boost Cowling

DUAL-ELEMENT MICROPHONE

M-100

- Dual microphone configuration features both dynamic and condenser elements
- TBC (Treble Boost Cowling) produces a unique tonal texture
- Long stroke Smooth operating PTT key
- High visibility ON AIR LED
- Built-in one-click Low-Cut and High-Cut filters
- One-touch PTT keylock

DESKTOP DYNAMIC MICROPHONE

M-90D



〈Supplied Accessories〉  
Microphone cable

- Utilizes a Dynamic microphone element which is specially tuned to produce a rich voice with depth and warmth
- Long stroke Smooth operating PTT key
- PTT keylock
- Built-in Low-Cut filter
- Implements an isolation transformer that reduces hum noise
- Stable Large base stand

DYNAMIC MICROPHONE STAND KIT

M-90MS kit



〈Supplied Accessories〉  
PTT Hand controller/  
W3/8 Nut

- Compatible with commercially available microphone-arm or floor type microphone stand mounting (Compatible with W3/8 screw)
- \*Microphone-arm/microphone stand are not included.
- Includes a hand controller with a PTT key
- Utilizes a Dynamic microphone element which is specially tuned to produce a rich voice with depth and warmth
- Built-in Low-Cut filter
- Implements an isolation transformer that reduces hum noise



〈Supplied Accessories〉  
Microphone cable

M-70 Desktop Microphone

- Utilizes a directional condenser microphone element with specially tuned frequency response
- Long stroke Smooth Operating PTT key
- Built-in Low-Cut filter
- An isolation transformer is integrated in the circuit board to enhance the audio quality
- One-touch PTT keylock

Applicable Models ( M-1 / M-100 / M-90D / M-90MS kit / M-70 )		
FTDX101 Series*2	FTDX10	FTDX9000 Series*2
FTDX5000 Series*2	FTDX3000D*2	FTDX1200*2
FT-891	FT-450/D	FT-991/FT-991A
FT-857/D	FT-817/ND, FT-818ND	FT-2000/D*2
FT-950*2	FT-897/D	FT-920*2
FT-900	FT-847*2	FT-1000MP*2
FT-1000MP-MKV*2	FT-1000*1*2	FT-990*1*2
FT-850*1*2	FT-840*1*2	FT-747*1*2

\*1 Requires Optional "Power Supply Kit" for connection to the M-100 / M-90D / M-90MS kit / M-70  
\*2 Requires Optional cable "SCU-53" for connecting of the M-90MS kit.

Specifications	M-1	M-100	M-90D	M-90MS kit	M-70
Microphone elements	Dynamic and Condenser microphones	Dynamic and Condenser microphones	Dynamic microphone	Dynamic microphone	Condenser microphone
Supply Voltage	DC 5 V ± 5 %	DC 5 V ± 10 %	DC 5 V ± 10 %	DC 5 V ± 10 %	DC 5 V ± 10 %
Frequency Response	30 - 17000 Hz	30 - 17000 Hz	30 - 17000 Hz	30 - 17000 Hz	30 - 17000 Hz
Sensitivity	− 60 dB(1kHz 0 dB = 1V/1Pa)	− 60 dB(1kHz 0 dB = 1V/1Pa)	− 60 dB(1kHz 0 dB = 1V/1Pa)	− 60 dB(1kHz 0 dB = 1V/1Pa)	− 60 dB(1kHz 0 dB = 1V/1Pa)
Mic Impedance	600 Ohms	600 Ohms	600 Ohms	600 Ohms	600 Ohms
Headphone Output Impedance	16 Ohms(TYP)	-	-	-	-
Headphone Output Level	15 mW(TYP)	-	-	-	-
RX AUDIO IN(Input Level)	100 mVrms(TYP)	-	-	-	-
Dimensions(WxHxD)	5.5" x 11.0" x 5.0(140 x 280 x 152 mm)*3	5.0" x 11.0" x 5.4(126 x 280 x 137 mm)*3	4.17" x 7.56" x 4.98" (106 x 192 x 126.5mm)*3	φ2.45" (62 mm) , Length 6.38" (162 mm)	4.2" x 6.7" x 5.0 (106 x 170 x 126.5mm)*3
Weight(approx)	2.11 lbs (960g) w/o Cable	2.00 lbs (910g) w/o Cable	18.70 oz (530 g) w/o Cable	7.05 oz (200 g)*4	15.87 oz (450 g) w/o Cable

\*3 Dimensions (H): Maximum with microphone flat \*4 w/ bracket, w/o Hand controller

ANTENNAS & TUNERS

Auto Active-Tuning Antenna

ATAS-120A



Yaesu patented ATAS™ (Active-Tuning Antenna System) provides HF/VHF/UHF coverage with automatic motorized tuning. Utilizing control signals from the transceiver microprocessor conducted via the coaxial cable, the ATAS internal motor adjusts the antenna length for best SWR. The ATAS covers the 7/14/21/28/50/144/430MHz bands.

■ Specifications

Frequency Range: 7/14/21/28/50/144/430 MHz Amateur Bands  
Height (Approx.): 4.59~5.24 ft (1.4~1.6 m)  
Weight (Approx.): 1.98 lb (900 g)  
Input Impedance: 50Ω  
Max Input Power: 120W (SSB/CW, 50% Duty)  
Matched SWR: Less than 2.0 : 1 (with proper counterpoise)

Active-Tuning Antenna

ATAS-25



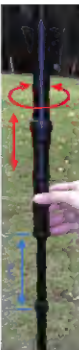
The ATAS-25 is a manually-adjusted portable antenna ideal for field use with the HF Transceivers. Designed for mounting on a standard camera tripod (1/4" stud), the ATAS-25 is tuned by sliding the shorting section of the loading coil assembly up or down and selecting the appropriate number of top sections. Counterpoise wires are supplied.

■ Specifications

Frequency Range: 7/14/21/28/50/144/430 MHz Amateur Bands  
Height (Approx.): Max. 7.2 ft (2.2 m) during Operation  
Min. 1.96 ft (0.6 m) for Transporting  
Weight (Approx.): 2.05 lb (930 g)  
Input Impedance: 50Ω  
Max Input Power: HF/50MHz: 100W (SSB/CW, 50% Duty)  
50W (AM/FM)  
144/430 MHz: 50W (ALL MODE)  
Matched SWR: Less than 2.0 : 1

■ Supplied Items

Radiating Elements  
Radial Element (for VHF band)  
Radial Element (for UHF band)  
Radial Wires (20 ft (6 m) ,  
9.8 ft (3 m) & 6.6 ft (2 m) Length)  
Spare Radial Wire (32.8 ft (10 m) Length)  
Allen Wrench



OPTIONS



●M-1 Reference Microphone ●M-100 Dual-Element Microphone ●M-90D Desktop Dynamic Microphone ●M-90MS Kit Dynamic Microphone Kit ●M-70 Desktop Microphone ●MH-36 ERJ DTMF Hand Microphone ●MH-31 A8J Hand Microphone ●YH-77STA Lightweight Stereo Headphone



●SSB YF-122S (2.3 kHz) Collins® Mechanical Filters ●CT-62 CAT Computer Interface Cable ●CT-39A Packet Interface Cable ●SCU-17 USB Interface Unit (Requires CT-62) ●CSC-83 Soft Case ●SBR-32MH Ni-MH Battery Pack (9.6 V, 1900 mAh) ●SAD-24B/C/U/H\* Battery Charger ●ATAS-25 Active-Tuning Antenna (Manual Type)

\* Depending on the version



◎ Innovative FC-30 (optional)  
Automatic Antenna Tuner

The FC-30 is a high-speed, relay-controlled Automatic Antenna Tuner utilizing a combination of sixteen capacitors and nine low-loss coils to reduce SWR as presented to the FT-857D feedpoint.

Automatic  
Antenna Tuner

FC-30

■ Specifications

Frequency Range : 1.8 ~ 30 MHz, 50 ~ 54 MHz  
Input Impedance : 50 Ω  
Maximum Power : 100 Watts  
Matched SWR : 1.5 : 1 or less  
Tune-up Power : 4 W ~ 60 W  
Tune-up Time : 5 seconds or less  
Impedance Matching Range : 1.8 ~ 30 MHz, 50 ~ 54 MHz: 16.5 Ω ~ 150 Ω  
Impedance Matching Memories : 100 channels  
Input Voltage Requirement : 13.8 V ± 15% (supplied from transceiver)  
Operating Temperature Range : 14° F ~ 122° F (-10°C ~ +50°C)  
Case Size (WHD) : 3.1" x 1.8" x 10.2" (80 x 45 x 260 mm)  
Weight : 2.2 lb (1 kg)



◎ Automatic-Matching 200-Memory  
Antenna Tuner FC-40 (optional)

The FC-40 is a microprocessor-controlled antenna impedance matching network designed to provide all-amateur-band transmitting capability with the transceivers, when used with an end-fed random wire or long whip antenna.

Automatic-Matching 200-Memory  
Antenna Tuner

FC-40

■ Specifications

Frequency Range : 1.8 ~ 54 MHz with 20+ m end-fed wire,  
7 ~ 54 MHz with YA-007 HF 2.5 m  
Mobile Whip Antenna  
Input Impedance : 50 Ω  
Max Power : 100 Watts (3 minutes Maximum Continuous TX)  
Matched SWR : 2.0:1 or less (if antenna is not a multiple of λ/2)  
Tune-up Power : 4 W ~ 60 W  
Tune-up Time : 8 seconds maximum  
Impedance Matching Memories : 200 channels  
Power Supply : 13.8 V ± 15% (supplied from transceiver)  
Case Size (WHD) : 9" x 7" x 2.1" (228 x 175 x 55 mm)  
Weight : 2.6 lb (1.2 kg)



◎ Automatic-Matching 100-Memory  
Antenna Tuner(optional)

The FC-50 is a microprocessor-controlled antenna tuner that is designed specifically for the FT-891. The FC-50 can be easily attached to the FT-891.

Automatic-Matching  
100-Memory  
Antenna Tuner

FC-50

■ Specifications

Frequency Range : 1.8 ~ 29.7MHz, 50 ~ 54MHz  
Input Impedance : 50 Ω  
Maximum Power : 100 Watts  
Matched SWR : 1.5 : 1 or less  
Tune-up Power : 4W ~ 60W  
Tune-up Time : 5 seconds or less  
Impedance Matching Range : 1.8 ~ 29.7MHz = 16Ω - 150Ω  
50 ~ 54MHz = 25Ω - 100Ω  
Impedance Matching Memories : 100 channels  
Input Voltage Requirement : 13.8V ± 15 % (supplied from transceiver)  
Case Size (WHD) : 6.1" x 1.8" x 8.3" (155 x 45 x 210.5 mm)  
Weight : 3lb (1.35kg)



ROTATORS

G-2800DXA/DXC

Extra Heavy Duty  
Supplied Accessories:  
40 m Control cable with Connector\*



G-1000DXA/DXC

Medium / Heavy Duty



G-800DXA

Medium Duty



G-450ADC/CDC

Light Duty



G-5500DC

Azimuth-Elevation Rotator

Models	G-2800DXA*1 G-2800DXC*2	G-1000DXA*1 G-1000DXC*2	G-800DXA*2	G-800SA	G-450ADC G-450CDC	G-5500DC
Recommended Application	Heavy-duty applications Recommended for in-tower mounting.	Medium-heavy-duty for large HF arrays.	Medium-duty, for medium/ large HF/VHF arrays.		Light to medium duty. Low price, perfect entry level rotator.	Azimuth-Elevation Combination for space communication.
Wind Load	3 m <sup>2</sup>	2.2 m <sup>2</sup>	2 m <sup>2</sup>	2 m <sup>2</sup>	1 m <sup>2</sup>	AZ: 2 m <sup>2</sup> EL: 1 m <sup>2</sup>
K-Factor*3	950	230	180	180	100	AZ: 200 EL: 80
Stationary Torque	25,000 kg/cm	6,000 kg/cm	4,000 kg/cm	4,000 kg/cm	3,000 kg/cm	AZ: 4,000 kg/cm EL: 4,000 kg/cm
Rotation Torque	2,500~800 kg/cm	1,100~600 kg/cm	1,100~600 kg/cm	800 kg/cm	600 kg/cm	AZ: 600 kg/cm EL: 1,200 kg/cm
Max. Vert. Load	300 kg	200 kg	200 kg	200 kg	100 kg	AZ: 200 kg EL: 30 kg
Max. Vert. Intermittent Load	1,200 kg	800 kg	800 kg	800 kg	300 kg	AZ: 800 kg EL: 100 kg
Backlash	0.2°	1°	1°	1°	0.5°	AZ: 1° EL: 1°
Mast Size	48~63 φ	38~63 φ	38~63 φ	38~63 φ	32~63 φ	AZ: 38~63 φ EL: 32~43 φ
360° Rotation Time	50~120 sec	40~100 sec	40~100 sec	55 sec	55 sec	60 sec
180° Elevation Time	N/A	N/A	N/A	N/A	N/A	65 sec
Boom Diameter	N/A	N/A	N/A	N/A	N/A	EL 32~43 φ
Direct control from YAESU HF radio*4	○	○	○	N/A	N/A	N/A
PC control*5	○	○	○	N/A	N/A	○
Rotator Diameter x Height	200 φ x 345	186 φ x 300	186 φ x 300	186 φ x 300	186 φ x 263	186 φ x 254(W) x 500(H)
Rotator Weight	6.5 kg	3.5 kg	3.5 kg	3.5 kg	3.2 kg	9 kg
Cable Requirement	6	5	5	5	4	5 x 2
Supply AC Voltage	DXA: 117/220 V DXC: 220 V (CE)	DXA: 117/220 V DXC: 220 V (CE)	117/220 V	117/220 V	ADC: 117/220 V CDC: 220 V (CE)	117/220 V

\*1: USA version only

\*2: On models with "DXA/DXC" suffix, rotation speed and torque will vary with the speed control setting.

\*3: K-Factor: Multiply turning radius times weight; add K-Factor for each antenna in "Christmas Tree" installations.

\*4: Depending on HF radios, please refer to catalog of YAESU HF radio.

\*5: Requires optional GS-232B.

**Rotator Unit Dimensions**

G-2800DXA/DXC

G-1000DXA/DXC  
G-800DXA  
G-800SA

**Rotator Attachment Dimensions**

84mm  
119mm  
φ 9 (4 locations)

Tower-Mounted Antennas

Pole-Mounted Antennas

Thrust Bearing  
GS-065  
GS-680U

Larger Rotator  
Absorber Joint  
GA- 2500/ 3000

Thrust Bearing  
GS-050  
Medium-sized  
Rotator  
GC-038B

**OPTIONS**

● GS-232B  
Computer Controller for  
all DXA/DXC Series and  
G-5500DC Rotators

● GS-680U  
Universal Bearing

● GS-065  
Thrust Bearing

● GS-050  
Thrust Bearing

● GA-3000  
Absorber Joint for  
G-2800DXA/DXC  
Rotators

● GC-038B/G  
Mast Clamp (Brown/Green)  
for G-1000DXA/DXC,  
G-800DXA,  
G-800SA, and  
G-450ADC/CDC Rotators

● GC-048  
Mast Clamp for  
G-2800DXA/DXC  
Rotators

● GL-33  
Mast Adjustment Plate

● GA-2500  
Absorber Joint for G-1000DXA/DXC,  
G-800DXA, G-800SA, and  
G-450ADC/CDC Rotators



● Control Cables

- 40 m Control cable with Connector
- 25 m Control cable with Connector

SPECIFICATIONS



HF&V/UHF ALL MODE  
TRANSCIVERS CATALOG



SPEC01

Series		HF-50MHz																	
		F T D X 101 Series																	
																			
Model number		FTDX 101MP	FTDX 101D																
General	RX Frequency Range	30 kHz - 75 MHz (operating) 1.8 MHz - 54 MHz (Specified performance, Amateur bands only) 70 MHz - 70.5 MHz (Specified performance, UK Amateur bands only)	30 kHz - 75 MHz (operating) 1.8 MHz - 54 MHz (Specified performance, Amateur bands only) 70 MHz - 70.5 MHz (Specified performance, UK Amateur bands only)																
	TX Frequency Ranges	1.8 MHz - 54 MHz (Amateur bands only) 70 MHz - 70.5 MHz (UK Amateur bands only)	1.8 MHz - 54 MHz (Amateur bands only) 70 MHz - 70.5 MHz (UK Amateur bands only)																
	Emission Modes	A1A (CW), A3E (AM), J3E (LSB,USB), F3E (FM), F1B (RTTY), G1B (PSK)	A1A (CW), A3E (AM), J3E (LSB,USB), F3E (FM), F1B (RTTY), G1B (PSK)																
	Frequency Steps	1/5/10 Hz (SSB, CW), 10/100 Hz (AM, FM)	1/5/10 Hz (SSB, CW), 10/100 Hz (AM, FM)																
	Antenna Impedance	50 ohms, unbalanced (Antenna Tuner OFF) 16.7-150 Ohms, unbalanced (Tuner ON, 1.8-29.7 MHz Amateur bands) 25-100 Ohms, unbalanced (Tuner ON, 50 MHz Amateur band)	50 ohms, unbalanced (Antenna Tuner OFF) 16.7-150 Ohms, unbalanced (Tuner ON, 1.8-29.7 MHz Amateur bands) 25-100 Ohms, unbalanced (Tuner ON, 50 MHz Amateur band)																
	Operating Temperature Range	+32 ° F - +122 ° F (0 ° C - +50 ° C)	+32 ° F - +122 ° F (0 ° C - +50 ° C)																
	Frequency Stability	±0.1 ppm (+14 ° F to +140 ° F / -10 ° C to +60 ° C after 1 minute )	±0.1 ppm (+14 ° F to +140 ° F / -10 ° C to +60 ° C after 1 minute )																
	Supply Voltage	100 VAC/ 200 VAC	DC13.8V ± 10%																
	Power Consumption (Approx.) (@ 117 VAC) (@ 13.8VDC: FTDX101D)	RX (no signal) 100 VA RX (signal present) 120 VA TX (200 W) 720 VA	RX (no signal) 3.5 A RX (signal present) 4.0 A TX (100 W) 23 A																
	Dimensions (WxHxD)	16.6" x 5.1" x 12.7" (420 x 130 x 322 mm) w/o Knob	16.6" x 5.1" x 12.7" (420 x 130 x 322 mm) w/o Knob																
Weight (Approx.)	31.5 lbs (14.3 kg)	26.5 lbs (12 kg)																	
Transmitter	Power Output	5W - 200W (CW, SSB, FM, RTTY, PKT) 5W - 50W (AM)	5W - 100W (CW, SSB, FM, RTTY, PKT) 5W - 25W (AM)																
	Modulation Types	J3E (SSB) : Balanced A3E (AM) : Low-Level (Early Stage) F3E (FM) : Variable Reactance	J3E (SSB) : Balanced A3E (AM) : Low-Level (Early Stage) F3E (FM) : Variable Reactance																
	Maximum FM Deviation	± 5.0 kHz / ± 2.5 kHz	± 5.0 kHz / ± 2.5 kHz																
	Harmonic Radiation	Better than -50dB (1.8 MHz - 29.7 MHz Amateur bands) Better than -65 dB (50 MHz Amateur Band)	Better than -50dB (1.8 MHz - 29.7 MHz Amateur bands) Better than -63 dB (50 MHz Amateur Band)																
	SSB Carrier Suppression	At least 60 dB below peak output	At least 60 dB below peak output																
	Undesired Sideband Suppression	At least 60 dB below peak output	At least 60 dB below peak output																
	3rd-order IMD (14 MHz ) ※PEP	-31 dB (200 W)	-31 dB (100 W)																
	Bandwidth	3.0 kHz (LSB, USB) , 500 Hz (CW ) 6.0 kHz (AM), 16 kHz (FM)	3.0 kHz (LSB, USB) , 500 Hz (CW ) 6.0 kHz (AM), 16 kHz (FM)																
	Audio Response (SSB)	Not more than -6 dB from 300 to 2700 Hz	Not more than -6 dB from 300 to 2700 Hz																
	Microphone Impedance	600 Ohms (200 to 10 k Ohms)	600 Ohms (200 to 10 k Ohms)																
Receiver	Circuit Type	Double-conversion Superhetrodyne	Double-conversion Superhetrodyne																
	Intermediate Frequencies	<table><tr><td>MAIN</td><td>SUB</td></tr><tr><td>9.005 MHz</td><td>8.9000 MHz</td></tr><tr><td>24 kHz</td><td>24 kHz</td></tr><tr><td>3rd. Frequencies</td><td>—</td></tr></table>	MAIN	SUB	9.005 MHz	8.9000 MHz	24 kHz	24 kHz	3rd. Frequencies	—	<table><tr><td>MAIN</td><td>SUB</td></tr><tr><td>9.005 MHz</td><td>8.9000 MHz</td></tr><tr><td>24 kHz</td><td>24 kHz</td></tr><tr><td>3rd. Frequencies</td><td>—</td></tr></table>	MAIN	SUB	9.005 MHz	8.9000 MHz	24 kHz	24 kHz	3rd. Frequencies	—
	MAIN	SUB																	
	9.005 MHz	8.9000 MHz																	
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	MAIN	SUB																	
	9.005 MHz	8.9000 MHz																	
	24 kHz	24 kHz																	
	3rd. Frequencies	—																	
Sensitivity	SSB/CW (2.4 kHz, 10 dB S+N/N) 0.16 μ V (1.8 - 30 MHz, AMP2) 0.125 μ V (50 MHz - 54MHz, AMP2) 0.16 μ V (70 - 70.5 MHz, AMP2) AM (6 kHz, 10 dB S+N/N, 30% modulation @400 Hz) 6.3 μ V (0.5 MHz - 1.8 MHz) 2 μ V (1.8 MHz - 30 MHz, AMP2) 1 μ V (50 MHz - 54 MHz, AMP2) 2 μ V (70 MHz - 70.5 MHz, AMP2) FM (12 kHz, 12 dB SINAD, 1 kHz, 3.5 kHz DEV) 0.25 μ V (28 MHz-30 MHz, AMP2) 0.2 μ V (50 MHz - 54 MHz, AMP2) 0.25 μ V (70 MHz - 70.5 MHz, AMP2)	SSB/CW (2.4 kHz, 10 dB S+N/N) 0.16 μ V (1.8 - 30 MHz, AMP2) 0.125 μ V (50 MHz - 54 MHz, AMP2) 0.16 μ V (70 - 70.5 MHz, AMP2) AM (6kHz, 10 dB S+N/N, 30% modulation @400 Hz) 6.3 μ V (0.5 MHz - 1.8 MHz) 2 μ V (1.8 MHz - 30 MHz, AMP2) 1 μ V (50 MHz - 54 MHz, AMP2) 2 μ V (70 MHz - 70.5 MHz, AMP2) FM (12 kHz, 12 dB SINAD, 1 kHz, 3.5 kHz DEV) 0.25 μ V (28 MHz - 30 MHz, AMP2) 0.2 μ V (50 MHz - 54 MHz, AMP2) 0.25 μ V (70 MHz - 70.5 MHz, AMP2)																	
Selectivity	Mode -6 dB -60 dB CW (BW=0.5kHz) 0.5 kHz or better 0.75 kHz or less SSB (BW=2.4kHz) 2.4 kHz or better 3.6 kHz or less AM (BW=6kHz) 6 kHz or better 15 kHz or less FM (BW=12kHz) 12 kHz or better 25 kHz or less	Mode -6 dB -60 dB CW (BW=0.5kHz) 0.5 kHz or better 0.75 kHz or less SSB (BW=2.4kHz) 2.4 kHz or better 3.6 kHz or less AM (BW=6kHz) 6 kHz or better 15 kHz or less FM (BW=12kHz) 12 kHz or better 25 kHz or less																	
Image Rejection	70 dB or better (1.8 - 28 MHz Amateur bands) 60 dB or better (50 MHz Amateur band)	70 dB or better (1.8 - 28 MHz Amateur bands) 60 dB or better (50 MHz Amateur band)																	
Maximum Audio Output	2.5 W into 4 Ohms with 10% THD	2.5 W into 4 Ohms with 10% THD																	
Audio Output Impedance	4 to 16 Ohms (4 Ohms: nominal)	4 to 16 Ohms (4 Ohms: nominal)																	
Conducted Radiation	Less than 4 nW	Less than 4 nW																	

● Specifications are subject to change, in the interest of technical improvement, without notice or obligation, and are guaranteed only within the amateur bands.



Series		HF-50MHz	
		FTDX10	FT-891
			
Model number		FTDX10	FT-891
General	RX Frequency Range	30 kHz - 75 MHz (operating) 1.8 MHz - 54 MHz (Specified performance, Amateur bands only) 70 MHz - 70.5 MHz (Specified performance, UK Amateur bands only)	30 kHz - 55.999995 MHz (Amateur bands only)
	TX Frequency Ranges	1.8 MHz - 54 MHz (Amateur bands only) 70 MHz - 70.5 MHz (UK Amateur bands only)	1.8 - 54 MHz (Amateur bands only)
	Emission Modes	A1A (CW), A3E (AM), J3E (LSB,USB), F3E (FM), F1B (RTTY), G1B (PSK)	A1A (CW), A3E (AM), J3E (LSB, USB), F2D, F3E (FM)
	Frequency Steps	1/5/10 Hz (SSB, CW), 10/100 Hz (AM, FM)	2/5/10 Hz (SSB, CW), 10/100 Hz (AM, FM)
	Antenna Impedance	50 ohms, unbalanced (Antenna Tuner OFF) 16.7-150 Ohms, unbalanced (Tuner ON, 1.8-29.7 MHz Amateur bands) 25-100 Ohms, unbalanced (Tuner ON, 50 MHz Amateur band)	50 Ohms, unbalanced
	Operating Temperature Range	+32 ° F - +122 ° F (0 ° C - +50 ° C)	+14 ° F - +122 ° F (-10 ° C - +50 ° C)
	Frequency Stability	±0.5ppm (+32°F to +122°F / 0°C to +50°C after 1 minute)	±0.5 ppm (@14°F - +122°F/-10° C - +50° C, after 1 min)
	Supply Voltage	DC13.8V ± 15%	DC 13.8 V ± 15 % (Negative Ground)
	Power Consumption	RX (no signal) 2.5A RX (signal present) 3.0A TX (100 W) 23 A	Receive: 2.0 A (signal present) Transmit: 23 A
	Dimensions (WxHxD)	10.5" x 3.6" x 10.4" (266 x 91 x 263mm) w/o Knob	6.1" x 2.0" x 8.6" (155 x 52 x 218 mm) w/o knobs
Transmitter	Weight (Approx.)	13 lbs (5.9 kg)	4.18 lbs (1.9 kg)
	Power Output	5W - 100W (CW, SSB, FM, RTTY, PKT) 5W - 25W (AM)	100 W (SSB/CW/FM) 40 W (AM)
	Modulation Types	J3E (SSB) : Balanced A3E (AM) : Low-Level (Early Stage) F3E (FM) : Variable Reactance	J3E (SSB) : Balanced A3E (AM) : Low-Level (Early Stage) F3E (FM) : Variable Reactance
	Maximum FM Deviation	± 5.0 kHz / ± 2.5 kHz	± 5.0 kHz / ± 2.5 kHz
	Harmonic Radiation	Better than -50dB (1.8 MHz - 29.7 MHz Amateur bands) Better than -63 dB (50 MHz Amateur Band)	Better than -50 dB (1.8 MHz - 30 MHz Amateur bands) Better than -63 dB (50 MHz Amateur bands)
	SSB Carrier Suppression	At least 60 dB below peak output	At least 50 dB below peak output
	Undesired Sideband Suppression	At least 60 dB below peak output	At least 50 dB below peak output
	3rd-order IMD (14 MHz ) ※PEP	-31 dB (100 W)	—
	Bandwidth	3.0 kHz (LSB, USB) , 500 Hz (CW) 6.0 kHz (AM), 16 kHz (FM)	3.0 kHz (LSB, USB), 500 Hz (CW) 6.0 kHz (AM), 16 kHz (FM)
	Audio Response (SSB)	Not more than -6 dB from 300 to 2700 Hz	Not more than -6 dB from 300 to 2700 Hz
Receiver	Microphone Impedance	600 Ohms (200 to 10 k Ohms)	600 Ohms (200 to 10 k Ohms)
	Circuit Type	Double-conversion Superheterodyne	Triple-conversion Superheterodyne (SSB/CW/AM) Double Conversion Superheterodyne (FM)
	Intermediate Frequencies		
	1st. Frequencies	9.005 MHz	1st. 69.450 MHz
	2nd. Frequencies	24 kHz	2nd. 450 kHz
	3rd. Frequencies	—	3rd. 24 kHz (SSB/CW/AM)
	Sensitivity	SSB/CW (2.4 kHz, 10 dB S+N/N) 0.16 μV (1.8 - 30 MHz, AMP2) 0.125 μV (50 MHz - 54 MHz, AMP2) 0.16 μV (70 - 70.5 MHz, AMP2) AM (6kHz, 10 dB S+N/N, 30% modulation @400 Hz) 7.9 μV (0.5 MHz - 1.8 MHz) 2 μV (1.8 MHz - 30 MHz, AMP2) 1 μV (50 MHz - 54 MHz, AMP2) 2 μV (70 MHz - 70.5 MHz, AMP2) FM (12 kHz, 12 dB SINAD, 1 kHz, 3.5 kHz DEV) 0.25 μV (28 MHz - 30MHz, AMP2) 0.2 μV (50 MHz - 54 MHz, AMP2) 0.25 μV (70 MHz - 70.5 MHz, AMP2)	SSB/CW (S/N 10 dB) 0.16 μV (1.8 - 30 MHz) 0.16 μV (50 - 54 MHz) (S/N 10 dB) AM 5 μV (0.5 - 1.8 MHz) 1.6 μV (1.8 - 30 MHz) 1.6 μV (50 - 54 MHz) (12 dB SINAD) FM 0.35 μV (29 MHz, 50 - 54 MHz)
	Selectivity	Mode -6 dB -60 dB CW (BW=0.5kHz) 0.5 kHz or better 0.75 kHz or less SSB (BW=2.4kHz) 2.4 kHz or better 3.6 kHz or less AM (BW=6kHz) 6 kHz or better 15 kHz or less FM (BW=12kHz) 12 kHz or better 25 kHz or less	Mode -6 dB -60 dB SSB/CW 2.4 kHz or better 3.6 kHz or less CW-N 500 Hz or better 750 Hz or less AM 6 kHz or better 15 kHz or less FM 12 kHz or better 30 kHz or less(-50dB) FM-N 9 kHz or better 25 kHz or less(-50dB)
	Image Rejection	70 dB or better (1.8 - 28 MHz Amateur bands) 60 dB or better (50 MHz Amateur band)	70 dB or better (HF/50 MHz Amateur bands)
	Maximum Audio Output	2.5 W into 4 Ohms with 10% THD	2.5 W into 4 Ohms with 10% THD
	Audio Output Impedance	4 to 16 Ohms (4 Ohms: nominal)	4 to 16 Ohms (8 Ohms: nominal)
	Conducted Radiation	Less than 4 nW	Less than 4 nW

Series		HF-UHF CW/SSB/AM/FM/C4FM	HF-UHF CW/SSB/AM/FM
		FT-991A	FT-818ND
			
Model number		FT-991A	FT-818ND
General	RX Frequency Range	30 kHz - 56 MHz, 118 - 164 MHz, 420 - 470 MHz (operating) 1.8 - 54 MHz, 144 - 148MHz, 430 - 450 MHz (specified performance, Amateur bands only)	100kHz - 56MHz 76MHz - 154MHz, 420MHz - 470MHz
	TX Frequency Ranges	1.8 - 54 MHz, 144 - 148MHz, 430 - 450 MHz (Amateur bands only)	1.8 - 54 MHz, 144 - 148 MHz, 430 - 450 MHz (Amateur bands only) 5.1675MHz Alaska Emergency Frequency (Depending on the version)
	Emission Modes	A1A (CW), A3E (AM), J3E (LSB, USB), F2D, F3E (FM) F7W (C4FM)	A1A (CW), A3E (AM), J3E (LSB/USB), F3E (FM), F1D (9600 bps packet), F2D (1200 bps packet)
	Frequency Steps	5 / 10 Hz (SSB, CW, AM), 100 Hz (FM, C4FM)	10Hz (CW/SSB), 100Hz (AM/FM)
	Antenna Impedance	50 Ohms, unbalanced 16.7 - 150 Ohms, unbalanced (Tuner ON, 1.8 - 30 MHz Amateur bands) 25 - 100 Ohms, unbalanced (Tuner ON, 50 MHz Amateur band)	50 ohms, Unbalanced (Front: Type BNC, Rear: Type M)
	Operating Temperature Range	+14 ° F - +122 ° F (-10 ° C - +50 ° C)	+14 ° F to +140 ° F (-10 ° C to +60 ° C)
	Frequency Stability	±0.5 ppm (@14°F - +122°F/-10° C - +50° C, after 1 min)	±0.5ppm (CW/SSB/AM), ±1 kHz ±0.5ppm (FM)
	Supply Voltage	DC 13.8 V ± 15 % (Negative Ground)	Nominal: 13.8VDC ± 15 %, Negative Ground Operating: 8.0 - 16.0V, Negative Ground FBA-28 (w/8 "AA" Alkaline Cells): 12.0V SBR-32MH (Ni-MH Battery Pack): 9.6V
	Power Consumption	RX (no signal) : 1.8 A RX (signal present) : 2.2 A TX : 2.3 A (HF/50MHz 100 W), 15 A (144/430MHz 50 W)	Squelched: 300mA (Approx.) Receive: 450mA Transmit: 2.4A (HF/50MHz/144MHz), 2.7A (430MHz)
	Dimensions (WxHxD)	9" x 3.2" x 10" (229 x 80 x 253 mm)	5.31" x 1.5" x 6.50" (135 x 38 x 165mm)
Transmitter	Weight (Approx.)	9.5 lbs (4.3 kg)	1.98 lbs (900g) w/o battery, antenna, and Microphone
	Power Output	SSB/CW/FM AM Carrier 1.8 - 54 MHz : 100 W 25 W 144/430 MHz : 50 W 12.5 W (Amateur bands only)	6 W (SSB/CW/FM), 2 W (AM Carrier) @13.8 V
	Modulation Types	J3E (SSB) : Balanced A3E (AM) : Low-Level (Early Stage) F3E (FM) : Variable Reactance F7W (C4FM) : 4-level FSK	J3E (SSB) : Balanced Modulator A3E (AM) : Early Stage (Low Level) F3E (FM) : Variable Reactance
	Maximum FM Deviation	±5.0 kHz / ±2.5 kHz	±5kHz (FM-N: ±2.5kHz)
	Harmonic Radiation	Better than -50 dB (1.8 - 30 MHz Amateur bands) Better than -63 dB (1.8 - 30 MHz Amateur bands, above 30MHz)* Better than -63 dB (50 MHz Amateur band) Better than -60 dB (144 MHz, 430 MHz Amateur bands)	-50dB (1.8-29.7MHz Amateur bands) -60dB (50/144/430MHz Amateur bands)
	SSB Carrier Suppression	At least 50 dB below peak output	At least 40dB below peak output
	Undesired Sideband Suppression	At least 50 dB below peak output	At least 50dB below peak output
	3rd-order IMD (14 MHz ) ※PEP	—	—
	Bandwidth	3.0 kHz (LSB, USB), 500 Hz (CW) 6.0 kHz (AM), 16 kHz (FM, C4FM)	3.0kHz (LSB, USB) , 500Hz (CW) 6.0kHz (AM), 16kHz (FM)
	Audio Response (SSB)	Not more than -6 dB from 300 to 2700 Hz	400Hz-2600Hz (-6dB)
Receiver	Microphone Impedance	600 Ohms (200 to 10 k Ohms)	600 Ohms (200 to 10k Ohms)
	Circuit Type	Triple-conversion superheterodyne (SSB/CW/AM) Double-conversion superheterodyne (FM/C4FM)	Double-Conversion Superheterodyne (SSB/CW/AM/FM) Single-Conversion Superheterodyne (WFM)
	Intermediate Frequencies		
	1st. Frequencies	1st. 69.450 MHz	1st: 68.33MHz (SSB/CW/AM/FM); 10.7MHz (WFM)
	2nd. Frequencies	2nd. 9.000 MHz (SSB/CW/AM); 450 kHz (FM/C4FM)	2nd: 455kHz
	3rd. Frequencies	3rd. 24 kHz (SSB/CW/AM)	—
	Sensitivity	SSB/CW (BW: 2.4 kHz, 10 dB S+N/N) 0.158 μV (1.8 - 30 MHz, AMP 2) 0.125 μV (50 - 54 MHz, AMP 2) 0.11 μV (144 - 148 MHz) 0.11 μV (430 - 450 MHz) AM (BW: 6 kHz, 10 dB S+N/N, 30 % modulation @400 Hz) 5 μV (0.5 - 1.8 MHz, AMP2) 1.6 μV (1.8 - 30 MHz, AMP 2) 1.25 μV (50 - 54 MHz, AMP 2) FM (BW: 15 kHz, 12 dB SINAD) 0.35 μV (28 - 30 MHz, AMP 2) 0.35 μV (50 - 54 MHz, AMP 2) 0.18 μV (144 - 148 MHz) 0.18 μV (430 - 440 MHz) There is no specification for frequency ranges not listed.	SSB/CW 0.25 μV (1.8 - 28 MHz) 0.25 μV (28 - 30 MHz) 0.2 μV (50 - 54 MHz) 0.125 μV (144/430 MHz bands) AM 32 μV (0.5 - 1.8 MHz) 2 μV (1.8 - 28 MHz) 2 μV (28 - 30 MHz) 2 μV (50 - 54 MHz) FM 0.5 μV (28 - 30 MHz) 0.32 μV (50 - 54 MHz) 0.2 μV (144/430 MHz bands) (IPO, ATT off, SSB/CW/AM = 10dB S/N, FM = 12dB SINAD)
	Selectivity	Mode -6 dB -60 dB CW 0.5 kHz or better 0.75 kHz or less SSB 2.4 kHz or better 3.6 kHz or less AM 6 kHz or better 15 kHz or less FM 12 kHz or better 30 kHz or less(-50dB)	Mode -6dB -60dB SSB/CW 2.2kHz 4.5kHz AM 6kHz 20kHz FM 15kHz 30kHz FM-N 9kHz 25kHz SSB 2.3kHz 4.7kHz (-66dB) *optional YF-122S installed
	Image Rejection	70 dB or better (HF / 50 MHz Amateur bands) 60 dB or better (144 / 430 MHz Amateur bands)	70dB or better (HF / 50MHz Amateur bands) 60dB or better (144 / 430MHz Amateur bands)
	Maximum Audio Output	2.5 W into 4 Ohms with 10% THD	1.0W (8 Ohms, 10% THD or less)
	Audio Output Impedance	4 to 8 Ohms (4 Ohms: nominal)	4 - 16 ohms
	Conducted Radiation	Less than 4 nW	less than 4 nW
		* European version only	

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About this brochure: We have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time in equipment, optional accessories, specifications, model numbers, and availability. Precise frequency range may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.

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